



Today's designers and manufacturers are turning to two shot injection molding, over-molding, co extruded profiles and sequential 3-D blow molding to produce the most cost effective new designs. This results in reduced assembly costs, better part consistency and higher quality at a lower overall costs. These sophisticated moldings are more challenging to design, tool and mold. One challenge that processors face, in producing multi-material moldings, is segregating and recovering dissimilar resins. Sterling and Eriez now offer a solution to this problem.

The **PolyMag™** Process provides an effective and automated means to recover manufacturing scrap and waste for multi-material processors. To do this the **PolyMag™** additive is incorporated into one of the polymers prior to molding, similar to colorant, making this resin susceptible to the very strong magnetic field produced in the Erium Rare Earth roll separator. Scrap parts are run through a traditional granulator and the **PolyMag™** separator can then separate the mixed polymer regrind.

Without the **PolyMag™** process companies making parts with co-molded materials either incurred the costs to dispose of these parts, losing the valuable resins or they added expensive labor to manually try to separate different plastics. Manual separation often involves band saws, razor knives and peeling that add ergonomic and employee safety risks.

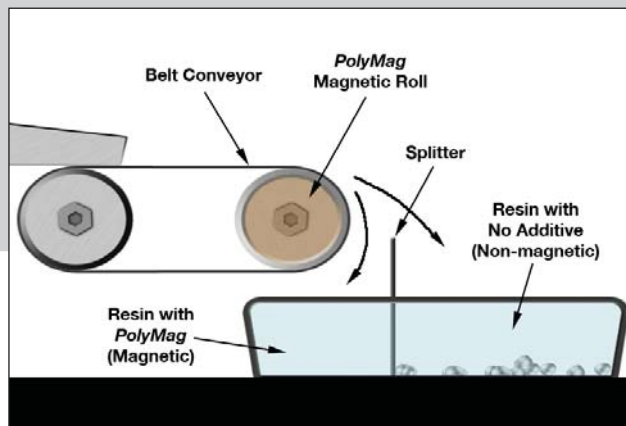
Sterling and Eriez provide progressive multi-material processors with a simple method to reduce the cost of waste.

Product Benefits

- Scrap cost reduction
- Eliminates salvage labor
- Eliminates ergonomic risks
- Improves material traceability
- Provides consistent materials
- Reduces disposal costs
- Provides higher value regrind
- Separates unusable blends
- Enhances process control

PolyMag™ Applications

- Injection Molding, Over Molding, Insert Molding, Two-Shot Molding
- Co-Extruded Profiles
- Exchange Blow Molding
- Sequential 3D Blow Molding
- Assembled Components
- Applied Gaskets
- Color Separation
- Process Works On: All Resins; Thermoplastic and Thermoset; Mechanical and Chemical Bonds



PolyMag™ Plastics Separator Equipment Description

- High intensity Erium™ Rare Earth permanent magnetic roll
- Typical magnetic roll diameter is 4" with a 15" effective length
- Continuous duty separating output is 150 to 500 lbs/hour
- Variable speed drive on the RE magnetic roll & feed belt
- Stainless steel vibratory feeder, 12" wide x 30" long, variable speed
- Stainless steel feed hopper & discharge chutes with quick connect fittings
- Locking casters for quick set-up and relocation
- 10 mil thick Kevlar feed belt, 17" wide
- 1/4 HP drive motor with low power consumption
- High level, non-magnetic discharge bin sensor to signal or shut off separator
- Automated operation with very low maintenance
- Multi-pass configurations are available
- Available in 115, 230, 460 volts at 50 & 60 cycles

Parts of the Process

The PolyMag™ Additive

- **PolyMag™** additive is a specially prepared iron oxide and in a universal carrier which is acceptable in most resins.
- Standard application is 1% loading
- Additive can be introduced with a color auger or Sterling additive feeder.

The PolyMag™ Separator

- Simple Operation
- Heavy duty construction
- Permanent Rare Earth magnet
- Built-in feed and discharge hoppers
- Kevlar belt
- Long-life bearings

Single Roller

Separates regrind into 2 components

Double Roller

Separates regrind into 3 components

